Identification and Characterization of Gulf Habitats

Meeting Summary
St. Petersburg, FL
July 10-12, 2007

Day 1

Larry McKinney, Texas Parks and Wildlife, State lead for this Priority Issue Team, and federal co-chairs, Diane Altsman, EPA Gulf of Mexico Program, and Becky Allee, NOAA Gulf Coast Services Center, welcomed participants. The purpose of the half day meeting on July 10 was to review the status of workgroup actions identified in the Governor's Action Plan and develop a strategy to further the progress of these actions. It was determined that of the seven actions assigned to the group three could be considered complete and the other four were long-term on-going actions. Several actions were updated for clarification and to record progress to date. The updated actions are provided in Attachment 1.

In addition to reviewing the actions of the Governor's Action Plan, participants reviewed additional actions presented in a strategic implementation plan which was prepared in advance of the meeting. A brief overview presentation (Attachment 2) of the plan was given by Becky Allee and discussion followed. A data inventory, which had also been distributed to the group prior to the meeting, was reviewed during this discussion. It was determined that the inventory needed to be more focused on databases that would support basic data needs for habitat mapping and assessment, such as the recent USGS Seagrass Status & Trends Report and GoMRC integration. Participants agreed to the following 'core' data layers:

- Seagrass
- Emergent vegetation
- Sediment maps
- Oyster maps
- Bathymetry
- Topography
- Intertidal maps
- Hardbottom

There was also discussion about the NOAA Ecosystem Goal Team core variables. Many of the NOAA core variables overlap with those identified above. As such, it was suggested that the workgroup review the NOAA core variables and determine if they should be adopted as base layers for the habitat characterization. The value of non-habitat data, such as stressors (light, salinity, DO…), was raised and agreed that such information should be pursued via the respective PITs. The Education PIT is a possible collaborator. The near term action that resulted from these discussions is to reorganize the data inventory in categories by core layer and redistribute to the group for review.

Day 2

The second day of meetings for the Identification and Characterization of Gulf Habitats began with a presentation (Attachment 3) by Diane Altsman on the outcomes from the series of state meetings previously held to present the Priority Habitat Information System (PHINS) and gather information on additional state needs. The presentation identified those data needs that were common across all states as well as identified more specific needs or desires PHINS end users required.

Participants were in agreement that high resolution bathymetry data was a priority. Robby Wilson, NOAA Special Projects Office, discussed a project he had been working on to compile all NOAA bathymetry for the Gulf of Mexico. It was determined that this project should serve as a demonstration to explain the capabilities and define additional needs. The team agreed to establish a bathymetric subcommittee to coordinate existing bathymetric data and initiate a gap analysis.

Following the state needs discussion, a series of presentations were given by principal investigators for the various on-going data and classification related activities for the Gulf of Mexico. Dave Reed, Florida Fish and Wildlife Research Institute (FWRI), presented the Geospatial Assessment of Marine Ecosystem (GAME) project for the state of Florida then expanded the discussion to address plans for the gulf-wide expansion of GAME (Attachment 4). FWRI received a grant from the EPA Gulf of Mexico Program for this expansion. It was stated that the Gulf GAME would focus on seagrasses; all data discovered would be collected but the GIS footprint would be limited to seagrass. As a data discovery tool, Gulf GAME would feed into PHINS, i.e., it is a tool to populate PHINS. The controlled menus in GAME's metadata entry tools were noted as effective.

NatureServe also received a grant from the EPA Gulf of Mexico Program to further development of the Coastal and Marine Ecological Classification Standard (CMECS) within the Gulf of Mexico. Kathy Goodin, NatureServe, presented the CMECS project (Attachment 5). The emphasis of the NatureServe work is to describe all biotopes for seagrasses within the Gulf of Mexico. Discussions on ontologies and semantic catalogs led to the decision that a team was needed to develop a thesaurus, or crosswalk, for key words found within the various efforts, e.g., CMECS, GAME, PHINS, Gulf of Mexico Regional Collaborative (GoMRC) and GCMD. It was agreed that an ontology subcommittee could facilitate commitments to use a shared vocabulary, and eventually ontology database structures, in a coherent and consistent manner.

Following the GAME and CMECS presentations, Chris Cretini, USGS National Wetlands Research Center, presented PHINS (Attachment 6). PHINS will have a common ontology based upon CMECS but will take into account GAME and NBII classification. This common ontology will define the vocabulary with which queries and assertions are exchanged amongst PHINS. Participants identified a need to define the unique characteristics of each project and determine areas of overlap from a user's perspective. For example, PHINS captures documents, posters, presentations, etc. while GAME only captures data. PHINS pulls from MerMAID; some data in GAME may not have all MerMAID requirements and therefore

would not be pushed into PHINS. NOAA National Coastal Data Development Center will be hiring 10-15 student interns next summer (2008) through the Northern Gulf Institute. These students could be used for metadata input and training assistance to the five Gulf States.

Finally, Tom Gulbransen, Battelle, gave a presentation on GoMRC's (Attachment 7) potential role as a Decision Support System (DSS) aimed at helping discover and integrate data assets such as those organized by PHINS and GAME. Questions surrounding the GoMRC project involved long-term maintenance of the project, mechanism to allow ontology modifications, and the case-specific challenges that groups need to overcome as ecosystem components are simulated with various types of data-intensive models. The GoMRC demonstration DSS focuses on seagrass restoration prioritization in Mobile Bay. GoMRC's work flow explorer module enables collaborative planning for data and modeling needs. It was stated that Battelle, in collaboration with the other PIs, should develop an integration plan for the various projects to advance interoperability and promote tool development.

The following issues were identified during discussions following the presentations:

- Data viewer – additional visualization tools are needed
- Data organization – consider using CMECS
- Digital library – standard search tool
- Metadata – include abstract that presents methodology, project objectives
- Conversion of non-GIS ready data
- Historic data access; need for digitization
- Location to 'hold' data -- about 70% of end users would not be interested in directly acquiring data but rather are interested in where the data exists.
  - Remain with states
  - NOAA central holder
  - EROS data center
- Footprint consistency; use FGDC guidance; build a spatial index map
- Define level of consistency needed to populate records
- Firewalls – not currently being addressed; lower priority; could use proxy servers outside firewalls
- Other data sources to consider
  - Tidal freshwater – frame for extent of tidal wetlands
  - Minerals Management Service, Environmental Biology Program – geobibliography with digitized project data
  - EPA Ecological Research Program – decision support system; due 2013??

During the meeting wrap up, it was determined that the workgroup needed to expand on the state needs meetings once a clear integration plan had been established. More specific information is needed regarding data and decision making needs, e.g., what are the data to be used for, what is the necessary scale (e.g., landscape vs. local), what is the time period. Opportunities to refine the databases exist now as development continues. It was also stated that having some case studies that could demonstrate how having access to data improved management decisions would provide further support for the databases. It was suggested that participants review the recently completed EPA/USGS seagrass report for recommendations

on data collection/needs.?? Other sources to identify data needs include the national wetlands inventory and the recently released report to Congress on hurricane impacts on habitat.

Outcomes:

A Bathymetric Subcommittee to coordinate existing bathymetric data and initiate a gap analysis was formed. Team members include:

- Robbie Wilson NOAA
- Jim Byrd – FLFWC
- Lisa Robbins – USGS
- Jeff Lilycrop – USACOE

An Ontology Subcommittee for Technical Coordination and Integration was formed. Team members include:

- Becky Allee, NOAA
- Kathy Goodin, NatureServe
- Chris Cretini, USGS
- Ellie Baptiste-Carpenter, Battelle
- Dan Hardin, UAH

Membership of the database technical/integration team was confirmed. Team members include:

- Chris Cretini, USGS
- Rost Parsons, NOAA
- Robby Wilson, NOAA
- Jeff Lillycrop, USACOE
- Mark Pexton, USACOE
- Danny Hardin, UAH
- Tom Gulbransen, Battelle
- Kathy Goodin, NatureServe
- Chris Madden, NatureServe
- Dave Reed, FWRI
- Cristina Carollo, FWRI

Follow-up Actions

- Distribute Habitat Identification Strategic Implementation Plan, Activities Spreadsheet, and meeting summary to participants. (Allee, Altsman)
- Distribute Texas Oyster Reef Data Base to PHINS contacts. (McKinney)
- Identify additional federal agencies to participate in activity ID-1:A2, the Federal Data Management Group.
- Identify funding sources to support activities within the strategic implementation plan. (All)
- Reorganize data inventory by core data layers identified during the workshop. (Allee)
- Request assistance from the Environmental Education Network (EEN) to facilitate metadata training and PHINS User Training workshops. The EEN volunteered to assist; the workgroup will schedule a second meeting with the EEN to scope out specific needs and further details. (McKinney, Allee, Altsman)

- Request EEN assistance in the marketing of PHINS.
- Review NOAA core variables and develop recommendations for adopting these variables as core layers. (All)
- Solicit nominations from all Priority Issue Teams for participation on a Data Information Team.

Identification and Characterization of Gulf Habitats Workshop Participants

Name	Agency	E-Mail	Phone
Andrea Copping	Battelle/PNNL	andrea.copping@pnl.gov	206.528.3049
Becky Allee	NOAA Gulf Coast Services Center	becky.allee@noaa.gov	228.688.1701
Bruce Spiering	NASA Stennis Space Center	bruce.a.spiering@nasa.gov	
Callie Hall	NASA Stennis Space Center	callie.m.hall@nasa.gov	228.688.2360
Camille Destafney	Navy Region SE	camille.r.destafney@navy.mil	904.542.8274
Chris Cretini	USGS National Wetlands Research Center	chris_c@condor.nwrc.gov	337.266.8621
Cristina Carollo	Florida Fish and Wildlife Research Institute	Cristina.Carollo@MyFWC.com	727.896.8626
Dan Farrow		dan.farrow@noaa.gov	
Danny Hardin	University of Alabama Huntsville	DHardin@itsc.uah.edu	256.961.7792
Dave Reed	Florida Fish and Wildlife Research Institute	Dave.Reed@MyFWC.com	727.896.8626
David Palandro	Florida Fish and Wildlife Research Institute	david.palandro@myfwc.com	727.896.8626
Diane Altsman	EPA Gulf of Mexico Program	Altsman.Diane@epa.gov	228.688.7015
Greg Brewer		gbrewer@usgs.gov	
Henry Norris	Florida Fish and Wildlife Research Institute	henry.norris@myfwc.com	727.896.8626
Jan Kurtz	EPA/ORD/GED	kurtz.jan@epa.gov	
Jeff Lillycrop	USACE Mobile District	jeff.lillycrop@usace.army.mil	251.694.3721
Jeff Rester	Gulf States Marine Fisheries Commission	jrester@gsmfc.org	228.875.5912
Jen Field	Battelle		
Joe Stinus	NOAA National Coastal Data Development Center	joe.stinus@noaa.gov	240.676.0937
Kathleen O'Keife	Florida Fish and Wildlife Research Institute	kathleen.okeife@myfwc.com	727.896.8626
Kathy Goodin	NatureServe	Kathy_Goodin@natureserve.org	703.908.1883
Larry Handley	USGS National Wetlands Research Center	Larry_Handley@usgs.gov	337.266.8691
Larry McKinney	Texas Parks and Wildlife Department	larry.mckinney@tpwd.state.tx.us	512.389.4636
Linda Boussard	USGS National Wetlands Research Center		
Lisa Robbins	USGS St. Petersburg		
Marti McGuire	NOAA Fisheries	Marti.McGuire@noaa.gov	727.551.5785
Marty Kress	NSSTC	marty.kress@nsstc.uah	
Mary Pagnutti	SSAI/NASA Stennis Space Center	mary.pagnutti-1@nasa.gov	228.688.2135
Pete Sheridan	NOAA Fisheries	pete.sheridan@noaa.gov	850.819.8026
Peter Rubec	Florida Fish and Wildlife Research Institute	peter.rubec@myfwc.com	727.896.8626
Rob Hudson	PhotoScience	rhudson@photoscience.com	727.576.9500
Robby Wilson	NOAA Special Projects Office	Robert.Wilson@noaa.gov	301.713.3000 x120
Roger Zimmerman	NOAA Fisheries	roger.zimmerman@noaa.gov	404.766.3500

Rost Parsons	NOAA National Coastal Data Development Center	rost.parsons@noaa.gov	228.688.4413
Russ Beard	NOAA National Coastal Data Development Center	russ.beard@noaa.gov	228.688.3026
Scott Cross		scott.cross@noaa.gov	
Scott Wilson	USGS National Wetlands Research Center	scott_wilson@condor.nwrc.gov	337.266.8644
Steve Gajewski	Battelle/PNNL	steve.gajewski@@pnl.gov	206.528.3278
Steve Jordan	EPA/ORD/GED	jordan.steve@epa.gov	850.934.9350
Terry McPherson	NASA Stennis Space Center	terry.r.mcpherson@nasa.gov	228.688.1918
Tom Gulbransen	Battelle	gulbran@battelle.org	631.941.3211